CLAIMS

1. A method of preparing particles of a defined size, using a reaction of reactants in a reaction vessel, characterized in that the reaction vessel is rotated, so that the reaction is carried out in the presence of rotational forces, wherein the reactants are separated from each other by means of a contactor, which contactor is so constructed that one reactant is contacted with the other reactant(s) under controlled conditions after it has passed the contactor, so as to form the reaction product, wherein the density of the reaction product thus formed is greater than that of the medium in which it has been formed.

2. A method according to claim 1, characterized in that a contactor selected from the group consisting of membrane, diaphragm, filter and atomizer is used.

3. A method according to claim 2, characterized in that a membrane having a defined pore size is used.

4. A method according to claim 1, characterized in that a rotational force having an acceleration of at least 1000 g is used.

5. A method according to any one or more of the preceding claims, characterized in that said rotational forces are generated by carrying out the reaction in a centrifuge.

6. A method according to any one or more of the claims 2 - 5, characterized in that a membrane of maximally 500 kDa is used.

7. A method according to claim 6, characterized in that a membrane of maximally 50 kDa is used.

8. A method according to claim 7, characterized in that a membrane of maximally 3 kDa is used.

9. A method according to any one or more of the preceding claims, characterized in that the reaction vessel is of substantially circular cross-section, and in that the contactor extends over the entire cross-section of the reaction vessel, perpendicularly to the longitudinal

axis thereof.

10. A method according to any one or more of the preceding claims, characterized in that the size of the reaction products formed by the reaction ranges from 10-3000 nm.

11. A method according to any one or more of the preceding claims, characterized in that the size of the reaction products formed by the reaction is < 300 nm.

12. A method according to any one or more of the preceding claims, characterized in that the size of the reaction products formed by the reaction is < 50 nm.

13. A method according to any one or more of the preceding claims, characterized in that the reaction products formed by the reaction have a uniform particle size distribution.

14. A method according to any one or more of the preceding claims, characterized in that the reactants are in the liquid phase.

15. A method according to any one or more of the preceding claims, characterized in that the proportion between the density of the reaction product being formed and the density of the medium in which the reaction product is being formed by means of the reaction is at least 1.5:1.

16. A method according to claim 10, characterized in that the proportion between the density of the reaction product being formed and the density of the medium in which the reaction product is being formed by means of the reaction is at least 2:1.

17. A method according to any one or more of the preceding claims, characterized in that inorganic particles are formed by the reaction.

18. A method according to claim 17, characterized in that said inorganic particles belong to the group consisting of oxides, carbonates, sulphides, halogenides and cyanides of one or more metals, or combinations thereof.

19. A method according to any one or more of the preceding claims, characterized in that the reaction comprises a precipitation reaction.

20. Particles obtained by carrying out the method as defined in according to any one or more of the preceding claims, said particles having a particle size ranging from 10-3000 nm.

21. Particles according to claim 20, characterized in that said particles have a uniform particle size distribution.

22. Particles according to any one or more of the claims 20-21, characterized in that said particles have a spherical shape.

23. Particles according to any one or more of the claims 20-21, characterized in that said particles have a cubic shape.

24. A device comprising a reaction vessel in which reactants separated by means of a contactor are present, which reaction vessel is suitable for rotation, wherein one reactant is contacted with the other reactant(s) under controlled conditions in the presence of rotational forces after it has passed the contactor.

25. A device according to claim 24, characterized in that the reaction vessel is of substantially circular cross-section, and in that the contactor extends over the entire cross-section of the reaction vessel, perpendicularly to the longitudinal axis thereof.